

Volume III.

November 1, 1897.

No. 11.

The Forester,

An Illustrated Monthly Journal of Forestry

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THE FLORIDA MOSS.
(*Tillandsia usneoides*.)

k/
/A

THE FORESTER.

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THE FORESTER contains articles pertaining to all branches of Forestry: The Prevention and Extinguishment of Forest Fires, Improved Methods of Cutting, Useful and Injurious Insects and Fungi, Useful Birds, the Establishment of City Forests, State and Federal Reservations, Water Supply, Forest Legislation, Forest Influences, Forest Utilization, Forest Products, Road Construction, Reclamation of Waste Lands, etc., etc.

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The North Carolina Forestry Society makes an encouraging beginning with about fifteen members. The Society will co-operate with the geological survey of that State in an endeavor to suppress forest fires, especially in the long-leaf pine lands in the eastern part of the State, on which all young growth is being destroyed, leaving the land, after lumbering, entirely naked or covered only with scrub oaks. The Society was organized October 21, and elected for the first year the following officers: W. E. Petty, President; C. A. Schench, Vice President; W. W. Ashe, Secretary and Treasurer.

At this season of the year even the most casual observer wonders at the brilliant coloring of the foliage of deciduous trees. There are few natural phenomena more complex and difficult to explain. The production of the great variety of tints is due to the many complex chemical changes constantly occurring in the laboratory of the leaf, being modified no doubt by changes in temperature, light, and moisture conditions, and varying more or less with every species.

In the autumn, materials which the tree no longer needs, move to the leaf, and are thus disposed of, the leaves being both the lungs and kidneys of the plant. The various substances in the leaf may mix or unite or disintegrate into other compounds, and the color change accordingly. In certain species certain colored products may predominate, which may give to the species a characteristic autumnal coloring, although there is naturally in every tree a great deal of variety in this respect.

Chlorophyll, which is a by-product of assimilation, and the green coloring matter of plants, consists of a combination of colored substances upon the proportion of the mixture of which the shades of green probably depend. With the cessation of activity in the tree the chlorophyll and other substances in the leaf no doubt disintegrate or unite to form parti-colored substances which show in proportion to the thickness and texture of the leaf.

These gorgeous autumnal tints although perhaps more striking are no more wonderful than the peculiar stages

of coloring in the foliage in spring when a purplish pink predominates. The tree is then in its formative stage. The young shoots are feeding upon reserve materials, but soon the chlorophyll-bodies perform their full function, chlorophyll is freely produced, and the leaves assume their normal color.

These attractive changes reach their climax in the North Temperate Zone, and are variously modified until we reach the Tropics, where there is a total lack of periodicity in leaf fall, and where the leaves are often variegated and even blood red in color. Many believe that frost has nothing or little to do with the coloring of autumn leaves, and regard it as a ripening process similar to that which colors fruits. Several varieties of trees become richly colored long before frost, and the process is probably not a ripening as in fruits. The colors of fruits serve a purpose in attracting animals to aid in the dissemination of their seeds, and are as important to the plant as the colors of the petals of its flowers, while in the coloration of autumn leaves there is probably no design, it being merely a process of decadence and death, in which the colors happen to be gorgeous.

The Florida Moss.

The frontispiece of this issue shows a mass of Florida moss on a fallen tree. It is known to botanists as *Tillandsia usneoides*, being named in honor of Professor Elias Tillands, of Abo. The specific name *usneoides* means "like *Usnea*," the generic name of a grey lichen or so-called moss which is common along the coast as far north as New Jersey, which it resembles, but to which it is in no way related. The common name "moss" is a misnomer for this plant, in that it belongs to the *Bromeliaceæ*, and is, strange to say,

closely related to the pine-apple. It is an epiphyte, that is a plant which grows upon another without stealing its nourishment as does a parasite, commonly called airplant, and hangs in festoons from the branches of trees throughout the moist regions of the South. It probably does the tree upon which it grows very little if any harm.

The collection of this moss is an important industry. Establishments for preparing and baling it are common along the Gulf Coast. When the outer grey covering is removed, a dark, coarse, tough fibre is left which resembles horse-hair. This is extensively used for stuffing mattresses, cushions, and the like.

This is one of the important minor forest products which is usually overlooked.

The Significance of Afforestation in Preventing and Correcting Torrents.

BY DR. F. FANKHAUSER.

Address delivered before the Bern Forestry Association, June 18, 1897.

PART II.

It will be seen that the torrent to be conquered is attacked by the forester at its source where its forces are as yet scattered, and thus easily tamed. Here by means of forestation we are able on the one hand to retard the water, on the other hand to secure the soil. In this way only is a lasting remedy of the evil possible. If you dispense with this means of help, which nature herself applies when not intercepted by man, the constructive treatment of brooks in every difficult case is only a palliation, and sooner or later retribution follows, unless at the same time the most important cause of freshets is recognized, and the steep slopes of collecting basins, which have been cleared of wood by ruthless stripping, are re-clothed.

I could demonstrate the correctness of this view by countless examples of new forest plantings in Southern France, which, partly with accompanying engineering constructions, partly without

them, have been the means of subduing and rendering harmless for all time the most dangerous and devastating torrents.

One of these instances only need here be mentioned.

The *Labouret* is a little valley of 113 hectares in surface extent in the department of Lower Alps, in the collecting basin of one of the tributaries of the Durance.

Up through this valley and at its upper end over the pass of *Labouret* the long and important highway leads from Montpellier to Coni. Previous to 1860 the region in question was entirely barren, so that even the sheep found nothing more to nibble. In every storm the water rushed down the steep naked banks with great velocity; it dug countless deep gullies in the soil (composed of Lias-Mergeln), and in the gorge became a resistless torrent which undermined both banks, causing landslides which tore away the roadbed, now here, now there so that traffic was continually interrupted. Conditions were indeed so serious that the *Labouret* became notorious far and wide as a place of terror. Such reputation may indeed have been well founded, as the engineers knew no other way out of the difficulty than to propose a new route, the cost of which was estimated at 400,000 francs.

This was the situation in the summer of 1862 when the first attempt of the sort in the French Alps was made, viz.: the artificial "regazonnement and reboisement" of the *Labouret* (in other words the fixing of the soil by stocking with grass and trees.) In 1874 the principal protective and cultural works were finished, and notwithstanding that no large constructions had been built, all danger for the road was over. To-day, except a few steep hill sides not yet sufficiently afforested, you would find the whole area clothed with luxuriant thrifty woods, and the once dreaded torrent of *Labouret* flows over the low dams in the valley bed, a harmless streamlet in the shadow of dense thickets of alders, poplars, ashes, and maples.

Even the severest storms which have since burst upon the region have only

caused a moderate rising and muddiness of the waters, and every danger of washing away has entirely disappeared.

This is only an example on a small scale, but it is applicable for extended water sheds, as great freshets are only made up of a series of small torrents, each one of which can be treated in a similar manner.

In the Western Cevennes for example, in the department of Hérault, there are two rivers, the *Orbe* and the *Jaur*. During a freshet on the 12th of September, 1875, within a few hours 150 dwellings were destroyed and 100 lives lost, causing a total damage, valued officially, at over three million francs.

In September, 1890, there occurred in the same department still more fearful rain falls and floods. The vineyards alone in the plain on the lower course of the Hérault suffered a loss of 15 million francs, not to mention other extensive devastations. In the collecting areas of the *Orbe* and the *Jaur*, where meantime extended new forest plantings had been carried out, no appreciable erosion took place. Washing away of debris was this time insignificant, and the water remained comparatively clear.

You see, gentlemen, from these instances how far the beneficial effects of well-wooded mountain regions extend, and what extraordinary interest we have in Switzerland on behalf of the low country between the Alps and Jura, that the forests in the mountains should be properly managed, and where necessary newly laid out on a large scale. Mistakes and failures here will be fatal, not only for the immediate surroundings, but for the whole country. The benefits of our Federal law relating to the forest administration in high regions are by no means confined to these regions only, but in a still greater degree are felt by the thickly settled low lands, and there is absolutely no foundation for the assumption that the mountain regions were favored at the expense of the low regions. Quite the contrary is the case. The law imposes considerable hardships and sacrifices upon the mountain populations; it restricts the right of control over their own forests by

limiting the minor products, such as wood-pasture and gathering of litter, and it enforces many other regulations which for the most part decidedly benefit the low country, and not the mountain inhabitants.

The Federal contributions for afforestation are therefore only an equitable and by no means an adequate indemnification for the sacrifices made in behalf of the whole country.

Perhaps it would be of interest to learn exactly what areas should be afforested. Although nothing can be formulated in a few words which would be invariably applicable, it may be stated that the forestation of a fertile and productive area becomes necessary in proportion to its steepness.

The greater the number of steep bare slopes in the collecting area of a torrent the more dangerous is it, and the more extended should be the afforestation. That the formation and composition of the soil is a point to consider goes without saying, but the valuation of the land in question must also be included in the calculations. Where it is worth two or three thousand francs per hectare, it may be better economy to extend the engineering works, and to decrease afforestation correspondingly.

You see therefore, gentlemen, that what the forestry folk recommend is not a reckless transformation of valuable agricultural land into forest. Only the least desirable areas in the uppermost regions are demanded. This last point is indeed of consequence. Afforestation must reach to as high an attitude as climatic conditions will possibly admit of, if possible, to the topmost ridge of a steep collecting area.

Further down where the land pays better the area of afforestation may be restricted, and in the valley bed it need hardly extend beyond the immediate shores on both sides of the stream. On the other hand, after the torrent is tamed, the pile of debris as well as the land won from the river and secured for culture may be entirely released and restored to agriculture as compensation for the worthless surfaces appropriated in the high

regions. It is very important then, in the treatment of a collecting area, that the furthest ramifications of a torrent should, first of all and as rapidly as possible, be covered with a forest growth, and at the same time the small protective works carried out. The amount of necessary outlay for works in the lower sections of the stream depends upon the effects produced by these newly wooded regions.

It seems especially requisite to undertake such plantings without delay where the corrective works are to be principally of wood, so that these may not decay before the beneficent effects of the newly created forest are apparent.

Considering expenditures in this connection, what relation do afforestation and protective or corrective works bear to one another in Switzerland? In spite of every effort on the part of cantonal and Federal forestry officials the area afforested with State aid since 1871 only amounts to less than 3,000 hectares, and according to the sum of expenditures the relation of afforestation to corrective works is about as one million to sixty-three and a half million francs.

Compare with this what France has accomplished since 1893. Fifteen million francs have been expended for purchase and forestation of 62,000 hectares of barren land, not to mention the many other plantings undertaken by private persons and communities with State aid. Only eight million francs have gone towards works of correction. This amount, together with expenses for roads, transport, buildings, etc., makes only 46 per cent. of the total expenditure for constructions and corrections as against 98 per cent. consumed by us for similar ends.

Do you not think, gentlemen, that France has spent her money more advantageously than we in Switzerland? Every outlay for constructive works is like a debt contracted, unless simultaneous forestation is undertaken which will render them needless in the future. The continuous expense of maintenance and renewal corresponds to the interest on the debt. Sums which are spent for the in-

crease of forest area are on the contrary not a debt, but capital well invested. From such a policy you may expect not only the most perfect protection, but in the end a considerable and from year to year increasing income.

In regard to the comparative amounts expended in Switzerland for corrective works and afforestation, it must be remarked that if the outlay has not hitherto accomplished its purpose the authorities should not be held responsible. Assistance is forthcoming whenever it is sought, and wherever forestation is indicated the necessity of undertaking it is invariably recommended, but I could give you countless examples of communities and corporations to whom the matter of subduing a torrent is a vital issue, who obstinately refuse to resort to cultures on their own ground and property, notwithstanding that most liberal appropriations are available for defraying the expenses.

The cause of the evil lies in the insufficient enlightenment of the people as to the real interests of the country. It seems, therefore, an important and worthy undertaking for the Bern Forestry Society to start a propaganda for the forestation of the collecting areas of our torrents, and for each member in his own neighborhood to work for the accomplishment of this object.

NOTE.—Appropriate resolutions closed Dr. Frankhauser's able and inspiring address.—ED.

The axe of the woodman is to find profitable employment in the forests of Labrador. A party of prospectors and timber lookers returned to Halifax recently and gave glowing accounts of the forest resources of that country. It appears that they had also looked over the forests of Newfoundland quite thoroughly, but found nothing there to equal what they had seen farther north. Plans have been perfected for organizing an extensive lumbering operation, and the projectors believe they will be in shape to begin shipping lumber next spring. Very naturally the market for their stock will be found in England, for there is no other consuming point where the product could be handled at a profit under existing conditions.

The Forests of Alaska.

BY JOHN MUIR, IN THE *Century* FOR JULY.

Going into the woods almost anywhere, you have first to force a way through an outer tangle of *Rubus*, huckleberry, dogwood and elder-bushes, and a strange woody plant about six feet high, with limber, rope-like stems beset with thorns, and a head of broad, translucent leaves like the crown of a palm. This is the *Ecino panax horrida*, or devil's club. It is used by the Indians for thrashing witches, and, I fear, deserves both of its bad names. Back in the shady depths of the forest the walking is comparatively free, and you will be charmed with the majestic beauty and grandeur of the trees, as well as with the solemn stillness and the beauty of the elastic carpet of golden mosses flecked and barred with the sunbeams that sift through the leafy ceiling.

The bulk of the forests of southeastern Alaska is made up of three species of conifers—the Menzies and Merten spruces and the yellow cedar. These trees cover nearly every rod of the thousand islands, and the coast and the slopes of the mountains of the mainland to a height of about 2,000 feet above the sea.

The Menzies spruce, or Sitka pine (*Picea sitkensis*), is the commonest species. In the heaviest portions of the forest it grows to a height of 175 feet or more, with a diameter of from three to six feet, and in habit and general appearance resembles the Douglas spruce so abundant about Puget Sound. The timber is tough, close-grained, white, and looks like pine. A specimen that I examined back of Fort Urangel was a little over six feet in diameter inside the bark four feet above the ground, and at the time it was felled was about 500 years old. Another specimen, four feet in diameter, was 385 years old; and a third, a little less than five feet thick, has attained the good old age of 764 years without showing any trace of decay. I saw a raft of this spruce that had been brought to Urangel from one of the neighboring islands, three of the logs of which were one hundred feet in length, and nearly two feet in diameter at the small ends. Perhaps half of the trees in Southeastern Alaska are of this species. Menzies, whose name is associated with this grand tree, was a Scotch botanist, who accompanied Vancouver in his voyage of discovery to this coast a hundred years ago. The beautiful hemlock-spruce (*Isuga Merletiana*) is more slender than its companion, but nearly as tall, and the young trees are more graceful and picturesque in habit. Large numbers of this species used to be cut down by the Indians for the astringent bark, which they pounded into meal for bread to be eaten with oily fish.

The third species of this notable group, *Chamaecyparis noot Katensis*, called yellow cedar or Alaska cedar, attains a height of 150 feet and a diameter of from three to five feet. The branches are pinnate, drooping, and form beautiful light-green sprays like those of *Libocedrus*, but the foliage is finer and the plumes are more delicate. The wood of this noble tree is the best the

country affords and one of the most valuable of the entire Pacific Coast. It is pale yellow, close-grained, tough, durable, and takes a fine polish. The Indians make their paddles and totem poles out of it, and weave matting and coarse cloth from the inner bark. It is also the favorite firewood. A yellow-cedar fire is worth going a long way to see. The flames rush up in a multitude of quivering, jagged edged lances, displaying admirable enthusiasm, while the burning surfaces of the wood snap and crackle and explode and throw off showers of coals with such noise that conversation at such firesides is well-nigh impossible.

The durability of this timber is forcibly illustrated by fallen trunks that are perfectly sound after lying in the damp woods for centuries. Soon after these trees fall they are overgrown with moss, in which seeds lodge and germinate and grow up into vigorous saplings, which stand in a row on the backs of their dead ancestors. Of this company of young trees perhaps three or four will grow to full stature, sending down straddling roots on each side, and establishing themselves in the soil; and after they have reached an age of two or three hundred years, the downtrodden trunk in which they are standing, when cut into, is found as fresh in the heart as when it fell.

The species is found as far south as Oregon, and is sparsely distributed along the coast and through the islands as far north as Chilcot (lat. 59°). The most noteworthy of the other trees found in the southern portions of these forests, but forming only a small portion of the whole, is the giant arbor vitae (*Thuja gigantea*). It is distributed all the way up the coast from California to about lat. 56°. It is from this tree that the Indians make their best canoes, some of them being large enough to carry fifty or sixty men. Of pine I have seen only one species (*P. contorta*), a few specimens of which, about fifty feet high, may be found on the margins of lakes and bogs. In the interior beyond the mountains it forms extensive forests. So also does *Picea alba*, a slender tree, which attains a height of one hundred feet or more. I saw this species growing bravely on frozen ground on the banks of streams that flow into Kotzebue Sound, forming there the margin of the arctic forest.

In the cove crñons and fiords, and along the banks of the glaciers, a species of silver fir and the beautiful Paton spruce abound. The only hard wood trees I have found in Alaska are birch, alder, maple, and wild apple, one species of each. They grow mostly about the margins of the main forests and back in the mountain cañons. The lively yellow-green of the birch gives pleasing variety to the colors of the conifers, especially on slopes of river-cañons with a southern exposure. In general views all the coast forests look dark in the middle ground and blue in the distance, while the foreground shows a rich series of grey and brown and yellow trees. In great part these colors are due to lichens which hang in long tresses from the branches, and to mosses which grow in broad, nest-like

beds on the horizontal palmate branches of the Menzies and Merten spruces. Upon these moss-bed gardens high in the air ferns and grasses grow luxuriantly, and even seedling trees five or six feet in height, presenting the curious spectacle of old, venerable trees holding hundreds of their children in their arms.

Seward expected Alaska to become the shipyard of the world, and so perhaps it may. In the meantime, as good or better timber for every use still abounds in California, Oregon, Washington, and British Columbia; and let us hope that under better management the waste and destruction that have hitherto prevailed in our forests will cease, and the time be long before our Northern reserves need to be touched. In the hands of nature these Alaska tribes of conifers are increasing from century to century as the glaciers are withdrawn. May they be saved until wanted for worthy use—so worthy that we may imagine the trees themselves willing to come down the mountains to their fate!

American Forestry Association.

DESIGNS FOR A CORPORATE SEAL.

The American Forestry Association invites competitive designs for a corporate seal.

All designs submitted will be referred to a jury, composed as follows, viz.:

Albert Pissis, San Francisco; Henry Van Brunt, Kansas City; Halsey B. Ives, St. Louis; J. H. Guest, Cincinnati; Augustus St. Gaudens, New York City.

If any one of these gentlemen finds himself unable to act, his place will be filled by some other expert.

The seal will not be more than one and three-quarters ($1\frac{3}{4}$) inches in diameter.

The words American Forestry Association will appear upon the seal.

Drawings will be not more than four (4) inches in diameter, rendered in India ink, on sheets twelve (12) inches square, without frame or border.

Each design will be marked in the lower right hand corner of the sheet with some distinctive device, and will be accompanied by a sealed envelope, marked with the same device, and containing the name and address of the author.

Designs will be forwarded, prepaid, to the Secretary of the American Forestry Association, Washington, D. C., so as to reach their destination not later than January 15, 1898, at twelve o'clock noon. From Washington the drawings will be

sent to the members of the jury, each of whom will be requested to return a written report, designating the designs that have merit, and the ten (10) that have superior merit.

From the last-mentioned class the Executive Committee of the American Forestry Association will select one design for execution. This design will be retained as the property of the Association, and to its author will be paid the sum of one hundred (\$100) dollars.

Drawings not designated by the jury as having merit or superior merit will be returned as soon as feasible to their authors.

Drawings designated by the jury as having merit or superior merit may be published, and may be retained for a time by the Executive Committee for exhibition, in Washington and elsewhere, before returning them to their authors.

Circulars of information as to the Association will be forwarded upon application to the Secretary.

MR. GEO. P. WHITTLESEY,
Atlantic Building, Washington, D. C.
WASHINGTON, D. C., July 1, 1897.

Classification of Marketable Wood in German Forests.

Editor of the Forester:

It is difficult for an American to realize the intense and close management and exploitation of German forest products. A list of the usual assortments which appears in *Schlich's Manual*, page 268, vol. V, gives an idea of the subdivision of marketable wood in countries where economy is the rule, and where a wise forest policy utilizes even the most insignificant salable product.

After enumerating about twenty classes of large timber used for everything, from masts to paper pulp, and as many classes of butts used by cabinet makers, wheelwrights, and the like, the division of poles is specified as including 14 subdivisions; poles of every size, from telegraph poles to umbrella handles.

Stacked wood for splitting and brushwood for two more divisions. In the latter are specified osiers for basket making, thatching material, and Christmas trees, but it is especially the last division of firewood which reveals an

economy well nigh incredible to those of us who revel thoughtlessly in blazing hearth fires. There are for example:

Split billets, crooked billets, broken wood, round billets from stems, round billets from branches, peeled round billets from oak coppice grown for tan, root-wood, large unsplit pieces, small split billets fastened with withes, fagots of larger wood from thinnings without twigs, branch fagots, fagots of thorns from clearings, heaped up fagot wood, and bark for fuel (not required in tanning.)

The memorable experience of sitting down and vainly endeavoring to warm myself before a meagre and pathetic bundle of grapevine twigs came vividly to my mind when I read the above classification, which I have thought might be of interest to readers of the FORESTER.

In South America, where mahogany is used for railroad ties and every common purpose imaginable, the cheap hemlock and pine boards which come from the United States in the form of crates and boxes are highly prized.

Among the latest uses to which wood pulp is being put is the manufacture of barrels and casks. The great difficulty in the past has been the production of removable heads. By a plan just patented one head of the cask or barrel is moulded in while the other is made to fasten in place by a series of keys. It is thought that by this process a highly popular barrel will be produced, and, in a measure, revolutionize the cooperage business.—*The Lumberman's Review*.

Mr. W. A. Stiles, the able editor of *Garden and Forest* and Park Commissioner of New York city, died in Jersey City on October 6th. He was one of the most distinguished men New Jersey has ever produced, having many accomplishments, being endowed with a strong mind, a unique and almost eccentric character, and a clear, forcible style of writing. Although chiefly interested in horticulture, agriculture and forestry, he was an able musical critic and a politician of the better class.

A Communal Forest for Andover.

The public-spirited citizens of Andover, Mass., are making strenuous efforts to secure as a town forest a unique and beautiful stretch of woodland known as Indian Ridge. The following letter gives some account of the region, and of the movement to rescue it from impending mutilation:

ANDOVER, Mass., Oct. 2, 1897.

To the Editor of the Forester:

Our work is still going on. We have two-thirds of the \$4,000 needed for the purchase, and till December 15th to secure the remainder. A lawn party has just netted us something over \$300, and a cricket club has offered to play a match game for the benefit of the "Indian Ridge Fund;" otherwise our dependence has been entirely on subscriptions. We cannot ask any appropriation from the town, as it will need to make a large one for sewerage and other necessary improvements.

Indian Ridge is just on the edge of the village, and brooks from it flow into our little Shanshin River, which is a tributary of the Merrimac, and also useful to our own mills.

The region, having all the charms of seclusion, yet has lovely outlooks, and is the natural pleasure park of the mill people close by. Its beautiful woodland and the path on its summit have been the delight of generations.

It is too an interesting portion of a long system of kames, and most conveniently situated for study. It has some historical interest, since it was through Professor Hitchcock's elaborate description of this Andover moraine in 1842 that attention was first called to the kames of America; while through Professor Wright's investigations in 1874 an explanation of kame formation was first gained.

The thought of its possibilities as an illustration of forestry methods did not come at once, though it came very soon. It occurred to some of us that since all interested wished the woodland kept in its natural beauty, the only care being to keep the forest in its highest perfection, it might be made a useful object lesson to owners of small woodlands, and to the boys and girls in our schools, giving them a knowledge they have, as yet, no means of obtaining, and developing an increasing interest in forest preservation.

When we consulted Mr. Graves he assured us that this was entirely possible, and cordially promised us every assistance he could render. He has been able to make only a hasty visit to the woodland, but considered it admirable for this purpose. Last spring he kindly gave an illustrated lecture on Forestry, which roused much interest.

The editor of our local paper has given us abundant space, and we have published selected articles on Forestry as well as letters from people especially interested in the beauty, associations, scientific value, etc., of the Ridge.

The undertaking began last November, and was inspired by the knowledge that the splendid pines on the Ridge were to be sold for lumber.

The tract to be purchased comprises something over twenty-three acres, including a part of Indian Ridge, and then an undulating woodland, extending back to a higher—the West Ridge.

On two sides are charming country roads, on a third a wide field, affording natural fire safeguards. On the fourth side the reserve can easily be enlarged at any time, should people be sufficiently interested. Indeed the town already owns nine acres, well-wooded, in this direction.

The growth on the part under consideration is chiefly white pines; a considerable area is covered with oaks. Part of the land back has been cut off, and is growing up to sproutwood oaks. There are a few hemlocks, chestnuts, maples, etc., and the soil is adapted to other species if desired. The pines are fine, some of them magnificent.

Very truly,

SUSAN M. BLAKE.

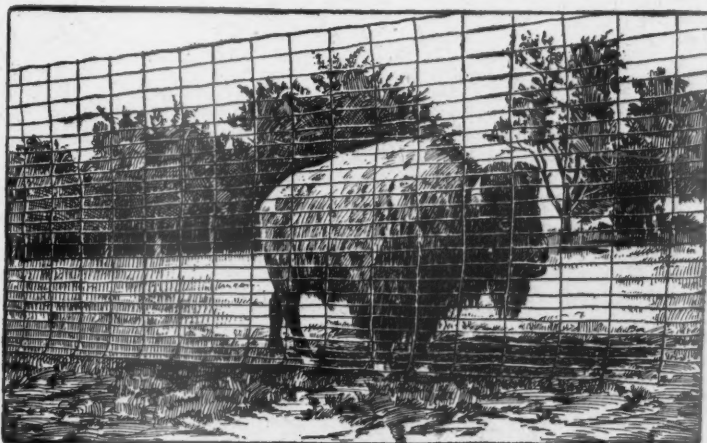
Surprise was expressed in railroad circles when it was learned that the New York State Forest Preserve Board had taken possession, through condemnation proceedings, of eight miles in Township 15 of the route of the proposed new railroad to run from North Creek to the upper lake. This action will result in breaking up the proposed commission of railroads to form a through line from the Delaware and Hudson terminus at North Creek to Ottawa, Canada. The results to follow the prevention of the construction of another road will be twofold. The forests will not be subject to the destruction which the operation of another road through the woods would entail, and the value of the lands to be acquired by the State hereafter through the section of the Adirondacks traversed by the routes of the proposed roads will not be enhanced.

A new industry has sprung up in the northern peninsular of Michigan. Some twenty or twenty-five years ago tens of thousands of pine trees of the finest quality were cut breast high with the lumberman's axe. These stumps are as sound as ever, and are now cut with a saw close to the ground, making excellent shingle bolts. The material has become so valuable that the farmers are now carefully saving what their predecessors wasted. In twenty-five years more white pine will be as valuable as mahogany.



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